

Sub B2
15 (New). A method of manufacturing a semiconductor device, comprising steps of:

forming at least one semiconductor island over a substrate;

spinning the substrate by using a spinning apparatus;

contacting an etching solution to a surface of said semiconductor island and scattering the etching solution during said spinning, thereby contaminating impurities are removed from the surface; and then

forming an insulating film over said semiconductor island.

16 (New). A method according to claim 15, wherein said etching solution is selected from the group consisting of the acidic solution containing fluorine: hydrofluoric acid, dilute hydrofluoric acid, ammonium fluoride, buffered hydrofluoric acid (BHF), hydrofluoric acid and aqueous hydrogen peroxide (FPM), and a solution mixture including ammonium hydrofluoride (NH_4HF_2) and ammonium fluoride (NH_4F) (LAL500).

A1
17 (New). A method according to claim 15, wherein the contaminating impurity is at least one element selected from periodic table group 1 elements or periodic table group 2 elements.

18 (New). A method according to claim 15, wherein the contaminating impurity element is at least one element selected from the group consisting of Na, K, Mg, Ca, and Ba.

Sub B2
19 (New). A method of manufacturing a semiconductor device, comprising steps of:

forming a semiconductor film over a substrate;

crystallizing said semiconductor film;

forming at least one semiconductor island over said substrate by patterning the crystallized semiconductor film ;

spinning the substrate by using a spinning apparatus;

contacting an etching solution to a surface of said semiconductor island and scattering the etching solution during said spinning, thereby contaminating impurities are removed from the surface; and then

forming a gate insulating film over said semiconductor island; and

forming a gate electrode over said gate insulating film.

20 (New). A method according to claim 19, wherein said etching solution is selected from the group consisting of the acidic solution containing fluorine: hydrofluoric acid, dilute hydrofluoric acid, ammonium fluoride, buffered hydrofluoric acid (BHF), hydrofluoric acid and aqueous hydrogen peroxide (FPM), and a solution mixture including ammonium hydrofluoride (NH_4HF_2) and ammonium fluoride (NH_4F) (LAL500).

cont.
A1

21 (New). A method according to claim 19, wherein the contaminating impurity is at least one element selected from periodic table group 1 elements or periodic table group 2 elements.

22 (New). A method according to claim 19, wherein the contaminating impurity element is at least one element selected from the group consisting of Na, K, Mg, Ca, and Ba.

23 (New). A method of manufacturing a semiconductor device, comprising steps of:
forming gate wirings over a substrate;

Sub
B3

spinning the substrate by using a spinning apparatus;
contacting an etching solution to surfaces of said substrate and said gate wirings and
scattering the etching solution during said spinning, thereby contaminating impurities are removed
from the surfaces; and then
forming an insulating film over said gate wirings.

24 (New). A method according to claim 23, wherein said etching solution is selected from the
group consisting of the acidic solution containing fluorine: hydrofluoric acid, dilute hydrofluoric acid,
ammonium fluoride, buffered hydrofluoric acid (BHF), hydrofluoric acid and aqueous hydrogen
peroxide (FPM), and a solution mixture including ammonium hydrofluoride (NH_4HF_2) and ammonium
fluoride (NH_4F) (LAL500).

cont.

A1

25 (New). A method according to claim 23, wherein the contaminating impurity is at least one
element selected from periodic table group 1 elements or periodic table group 2 elements.

26 (New). A method according to claim 23, wherein the contaminating impurity element is
at least one element selected from the group consisting of Na, K, Mg, Ca, and Ba.

27

27 (New). A method of manufacturing a semiconductor device, comprising steps of:
forming gate wirings over a substrate;
spinning the substrate by using a spinning apparatus;

contacting an etching solution to surfaces of said substrate and said gate wirings and scattering the etching solution during said spinning, thereby contaminating impurities are removed from the surfaces; and then

forming a gate insulating film and a semiconductor film over said gate wirings, continuously.

28 (New). A method according to claim 27, wherein said etching solution is selected from the group consisting of the acidic solution containing fluorine: hydrofluoric acid, dilute hydrofluoric acid, ammonium fluoride, buffered hydrofluoric acid (BHF), hydrofluoric acid and aqueous hydrogen peroxide (FPM), and a solution mixture including ammonium hydrofluoride (NH_4HF_2) and ammonium fluoride (NH_4F) (LAL500).

29 (New). A method according to claim 27, wherein the contaminating impurity is at least one element selected from periodic table group 1 elements or periodic table group 2 elements.

30 (New). A method according to claim 27 wherein the contaminating impurity element is at least one element selected from the group consisting of Na, K, Mg, Ca, and Ba.
